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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,546	08/31/2001	Markus Pettersson	944-003.089	1911
4955	7590	06/06/2005	EXAMINER SMITH, CREIGHTON H	
WARE FRESSOLA VAN DER SLUYS & ADOLPHSON, LLP BRADFORD GREEN BUILDING 5 755 MAIN STREET, P O BOX 224 MONROE, CT 06468			ART UNIT 2645	PAPER NUMBER

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/945,546

Applicant(s)

PETTERSSON ET AL.

Examiner

Creighton H. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 APR. '05.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-22 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6 is/are rejected.
- 7) ☒ Claim(s) 5 and 7-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

The finality of the last Office action, dated 23 February '05, has been WITHDRAWN due to applicant's remarks submitted on 11 April '05. A new non-final Office action is attached with the time for response set for 3 months from the date of mailing of this letter.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Puotiniemi '996 in view of Avasarala – U.S. patent #6212369.

Puotiniemi '996 teaches a circuit arrangement that combines a mixer/modulator having RF input signals (2) oscillated by reference signal (1), Fig. 4. Therefore, Puotiniemi's modulator has RF signal inputs at V2 and outputted above transistors Q1/Q2 into oscillator V1 to produce modulated output current that is directed up into Automatic Gain Control (AGC) circuit, shown in dashed lines above the modulator circuit. Puotiniemi further teaches an AGC circuit connected in cascade to a modulator, Fig. 4, but does not technically teach an AGC amplifier. Puotiniemi's AGC circuit is operatively connected to the modulated output current signals, i.e., in cascade, of the modulator/mixer and also connected to a supply voltage Vcc-69. However, Avasarala '369 teaches in Fig. 3 a variable amplifier in cascade between the mixer 102 and balanced loads R5/R6. To have provided Avasarala's amplifier in place of Puotiniemi's AGC circuit would have been obvious to a person having ordinary skill in the art

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because Avasarala teaches variable gain transistor pairs Q9/Q10 & Q11/Q12 that are directly connected in series with Gilbert Cell Mixer 102, allowing gain control voltage signal Vgc to directly control the current flow through the Gilbert Cell Mixer. For claim 4, Puotiniemi teaches a voltage to current converter at V2, whereby voltage is input into transistors Q1/Q2 and then is converted to current to drive the modulator circuit Q3/Q4/Q5/Q6.

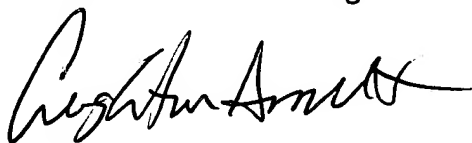
Claims 5 & 7-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12-22 are allowed.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kikuchi

Any inquiry concerning this communication should be directed to Creighton H. Smith at telephone number 571/272-7546.

25 May '05



Creighton H Smith
Primary Examiner
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